Abstract of the Disclosure

An electro-static chucking mechanism for chucking an object electro-statically is formed of a stage including a dielectric block having a chucking surface with a concave, gas introducing channels communicating with the concave, a chucking electrode provided in the dielectric block, main body fixed to the dielectric block, and a sheet inserted between the main body and dielectric block for enhancing heat transfer therebetween. A temperature controller is attached to the main body to circulate a coolant to a cavity for controlling temperature of the object. A chucking power supply is connected to the chucking electrode to apply voltage thereto to chuck the object. A gas introduction system is connected to the gas introducing channels for introducing heatexchange gas into the concave. Lift pins for receiving and transferring the object are disposed in the respective introducing channel.